# Translation

#### PATENT COOPERATION TREATY



# **PCT**

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 663936	FOR FURTHER ACTION	See Notific Preliminary	cation of Transmittal of International Examination Report (Form PCT/IPEA/416)			
International application No. PCT/JP2003/009003	International filing date (day/m 16 July 2003 (16.07.	onth/year)	Priority date (day/month/year) 29 July 2002 (29.07.2002)			
International Patent Classification (IPC) or n C07D 487/04			25 taly 2002 (25.07.2002)			
Applicant						
	IEMICAL TAKEDA AGI	RO COMPA	ANY, LIMITED			
This international preliminary exami and is transmitted to the applicant ac	nation report has been prepared cording to Article 36.	by this Interna	ational Preliminary Examining Authority			
2. This REPORT consists of a total of	4 sheets, including	g this cover sh	neet.			
	ed by ANNEXES, i.e., sheets of this report and/or sheets contain Administrative Instructions unde		n, claims and/or drawings which have been ions made before this Authority (see Rule			
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<ol> <li>This report contains indications relations.</li> <li>Basis of the report.</li> </ol>	ng to the following items:		-			
II Priority						
III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability						
IV Lack of unity of invention						
V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement						
VI Certain documents cited						
VII Certain defects in the international application						
VIII Certain observations on the international application						
Date of submission of the demand	Date of c	ompletion of	this report			
20 August 2003 (20.08.2	i i	04 March 2004 (04.03.2004)				
Name and mailing address of the IPEA/JP	Authorize	ed officer				
Facsimile No.	Telephon	e No.				
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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP2003/009003

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International application No.

PCT/JP03/09003

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or i	mductrial amultantities
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Statement			
Novelty (N)	Claims	. 1-12	YES
	Claims		NO
Inventive step (IS)	Claims	11-12	YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims		NO

#### 2. Citations and explanations

Document 1: "Methyl Imidazo[1,2-b]pyridazine-2-carbamates and Related Compounds as Potential Antifilarial Agents," (A.E. Mourad, et al.), J. Heterocyclic Chem., 1992, Vol. 29, pages 1583-1592

Document 2: "Synthesis of Pyridazine Derivatives," (A. Pollak, et al.), Tetrahedron, 1968, Vol. 24, No. 6, pages

Document 3: WO, 00-23450, A1 (Takeda Chemical Industries, Ltd.), 27 April, 2000 (27.04.00)

Document 4: "Studies on Anti-MRSA Parenteral Cephalosporins," (T. Ishikawa, et al.), The Journal of Antibiotics, 2001, Vol. 54, No. 3, pages 257-277

Document 1 describes a compound represented by the general formula (II) of the claims of the present application, where X denotes a lower alkyl group (t-butyl group), Y denotes a hydrogen atom, and R denotes a lower alkyl group (methyl group) (Compound No. 35)

Document 2 describes a compound represented by the general formula (II) of the claims of the present application, where X denotes a lower alkyl group (methyl group), Y denotes a hydrogen atom, and R denotes a lower alkyl group (methyl group) (Table 1, 2,6-dimethylimidazo(1,2-b)pyridazine).

Document 3 describes the production of a compound of the following formula (I') from a compound of the following formula (II) (where Q1 denotes an alkali metal or hydrogen atom, and Y denotes an alkylene, etc. or "bond") and from a compound of the following formula (III) (where Q2 denotes a halogen atom), characterized in that the reaction is performed in the presence of a base and an additive (magnesium sulfate, zinc chloride, cuprous chloride, potassium fluoride or lithium chloride).

General formula (II)

General formula (III)

General formula (I')

#### Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: V.2

Document 4 describes a process for producing the following compound No. 40 from the following compound No. 38.

Claims 1-10

The subject matters of claims 1-10 do not appear to involve an inventive step in view of documents 1-4 cited in the ISR.

The compounds represented by the general formula (II) of claim 1 are not novel as they are described in documents 1 and 2. A person skilled in the art could have easily examined the method described in document 3 for introducing the alkyl group at the 6-position when any of the compounds is synthesized, and could have easily used any of the "transition metal catalysts" as disclosed in documents 3 and 4.

Claims 11 and 12

The subject matters of claims 11 and 12 appear to be novel and to involve an inventive step in view of documents 1-4 cited in the ISR.

The compounds represented by the general formula (III) of claims 11 and 12 are considered to be novel, and documents 1-4 neither describe nor suggest any method for producing the compounds.